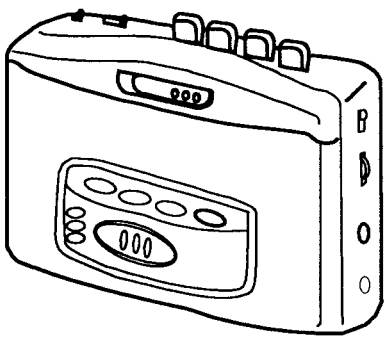
aiwa

aiwa SERVICE

HS-GS242



STEREO CASSETTE PLAYER

SERVICE MANUAL

• BASIC TAPE MECHANISM: OZM-2N • TYPE: Y,YK

SPECIFICATIONS

Maximum output :	20 mW + 20 mW (EIAJ/16Ω) 15 mW + 15 mW (EIAJ/32Ω)
Power source :	Battery DC 3V, R6 (size AA) x 2 Domestic AC power (using optional AC adaptor: AIWA AC-620/AC-300)
Battery life :	Using manganese batteries, R6P (size AA) Approx. 3 hours (EIAJ, 1mW output) Using alkaline batteries, LR6 (size AA) Approx. 6 hours (EIAJ, 1mW output)
Maximum dimensions (W x H x D) :	116.4 x 89.7 x 34.8 mm ($4^5/_8$ x $3^5/_8$ x $1^3/_8$ inches)
Weight :	Approx. 178 g, 0.39lbs (including batteries)

• Design and specifications are subject to change without notice.

S/M Code No. 09-945-056-7FP

ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-002-309-089		IC LA 4581MB
	87-017-370-089		IC,MM1038AFF
	87-017-643-089		IC,MM1206XFF
TRANSISTOR			
	89-111-624-089		C-TR,2SA1162Y
	87-026-264-089		C-TR,RN1411
	89-327-125-089		C-TR,2SC2712GR
DIODE			
	87-020-027-089		C-DIODE,1SS184
MAIN C.B			
C1	87-010-573-089		C-CAP,S 390P-50 UJ
C2	87-010-573-089		C-CAP,S 390P-50 UJ
C3	87-010-573-089		C-CAP,S 390P-50 UJ
C4	87-010-573-089		C-CAP,S 390P-50 UJ
C5	87-010-820-049		CAP,E 47-4 (MJ)
C6	87-010-501-04B		CAP,E 47-4 GAS
C8	87-010-187-089		C-CAP,S 5600P-50 B
C9	87-010-193-089		C-CAP,S 0.033-25 F
C10	87-010-193-089		C-CAP,S 0.033-25 F
C11	87-010-178-089		C-CAP,S 1000P-50 B
C12	87-010-178-089		C-CAP,S 1000P-50 B
C13	87-010-180-089		C-CAP,S 1500P-50 B
C14	87-010-180-089		C-CAP,S 1500P-50 B
C15	87-010-818-049		CAP,E 22-6.3 (MJ)
C16	87-010-501-04B		CAP,E 47-4 GAS
C17	87-010-501-04B		CAP,E 47-4 GAS
C18	87-010-503-049		CAP,E 220-4 GAS
C19	87-010-193-080		C-CAP,S 0.033-25F
C20	87-010-452-089		C-CAP,1-16 F
C21	87-010-805-089		C-CAP,S 1-16F
C22	87-010-452-089		C-CAP,1-16 F
C23	87-010-452-089		C-CAP,1-16 F
C24	87-010-452-089		C-CAP,1-16 F
C25	87-010-197-089		C-CAP,S 0.01-25 B
C26	87-010-805-089		C-CAP,S 1-16F
C27	87-010-178-089		C-CAP,S 1000P-50 B
C29	87-010-818-049		CAP,E 22-6.3 (MJ)
C102	87-010-184-089		C-CAP,S 3300P-50 B
JK1	87-099-459-019		JACK, 3.5 ST BLK
JK2	87-099-375-019		JACK,DC3-8
L1	87-005-724-089		COIL,3.3UH J SP02
L2	87-005-724-089		COIL,3.3UH J SP02
L3	87-005-724-089		COIL,3.3UH J SP02
R25	87-022-042-089		C-RES,M M/F 0.51-1/8
SFR1	87-024-050-019		SFR 1K
SW1	87-036-360-019		SW,SL 2-2-2
SW2	87-036-110-019		SW,PUSH SPPB 62
SW3	87-036-110-019		SW,PUSH SPPB 62
TH1	87-026-256-090		THMS,HT-100
VR1	83-HRC-609-019		VOL 20KAX2
MSP/BATT IND. C.B			
C7	87-010-187-089		C-CAP,S 5600P-50 B
C101	87-010-184-089		C-CAP,S 3300P-50 B
C103	87-010-195-089		C-CAP,S 0.068-25 F
C104	87-010-195-089		C-CAP,S 0.068-25 F
C105	87-010-452-089		C-CAP,1-16 F
C106	87-010-452-089		C-CAP,1-16 F
C107	87-010-195-089		C-CAP,S 0.068-25 F
C108	87-010-195-089		C-CAP,S 0.068-25 F
C109	87-010-189-089		C-CAP,S 8200P-50 B
C110	87-010-189-089		C-CAP,S 8200P-50 B
C111	87-010-188-089		C-CAP,S 6800P-50 B
C112	87-010-188-089		C-CAP,S 6800P-50 B
LED201	87-017-828-080		C-LED,SEC1401C GRN
LED202	87-017-829-080		C-LED,SEC1901C ORN
LED203	87-017-827-080		C-LED,SEC1201C RED
SW101	87-036-146-089		C/SW SLIDE 1-1-4
HEAD FLEX C.B			
PH1	81-HK6-604-010		HEAD PH ASSY (PH)

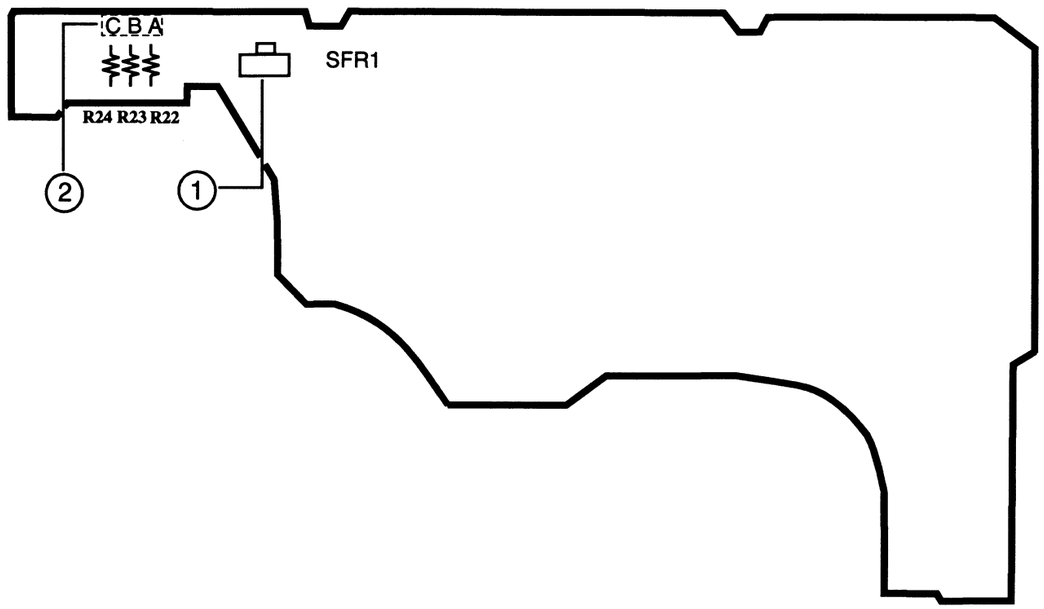
ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	84-HG7-901-019		IB, Y
2	87-080-045-019		HLDR,BELT
3	87-048-278-019		HP-24NA<YJ1>
4	87-048-273-019		HP-A160<Y,YK>

ADJUSTMENT

A MAIN C.B

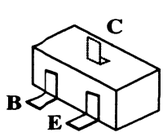


<TAPE PLAYER>

1. Tape Speed Adjustment.
   Settings: •Test tape: TTA-100
   •Test point: PHONES JACK
   •Adjustment location: SFR1
   Method: Play back the test tape, adjust for 3000Hz at FWD and ±45Hz at REV.

2. Motor Load Adjustment
   Refer to the REF NO.SI-88-037-OP OF service technical information

TRANSISTOR ILLUSTRATION



RN1411
2SC2712
2SA1162

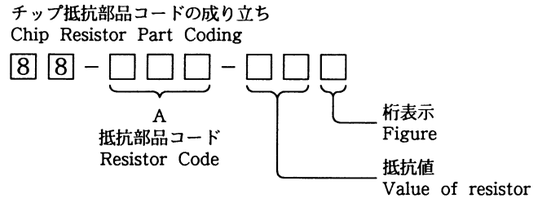
PRACTICAL SERVICE FIGURE

<TAPE SECTION>

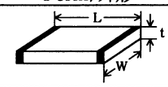
Tape speed:	3000Hz±90Hz
Wow & flutter:	Less than 0.5% (RMS)
Pinch roller press:	125g~160g
Take-up torque:	23~45g-cm (FWD, REV)
F.F torque:	More than 90g-cm
Rew torque:	More than 90g-cm
Back tension:	2.0~5.0g-cm
S/N ratio:	More than 43dB (PB)
Distortion:	Less than 3.0% (PB)
Noise level:	Less than 4.0mV (Vol MAX, PB)
Frequency response:	63Hz±3.5dB~8kHz±3.5dB (NORMAL) 63Hz±3.5dB~10kHz±3.5dB (CrO2,METAL)

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding

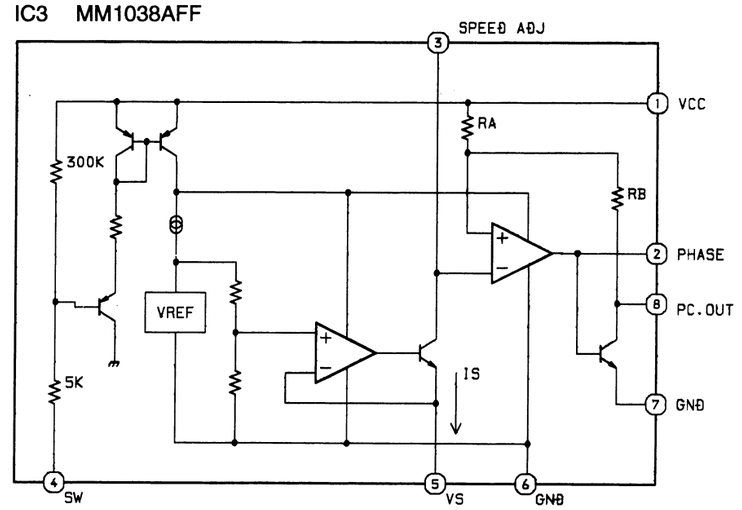


チップ抵抗
Chip resistor

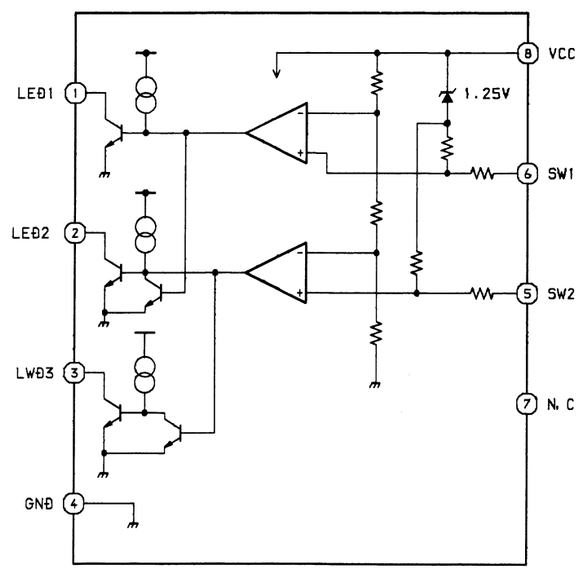
Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions／寸法 (mm) Form/外形	L	W	t	Resistor Code : A 抵抗コード : A
1/32W	1608	±5%	CJ		1.6	0.8	0.35	108
1/10W	2125	±5%	CJ		2	1.25	1.45	118
1/8W	3126	±5%	CJ		3.2	1.6	0.5 ~0.7	128

IC BLOCK DIAGRAM

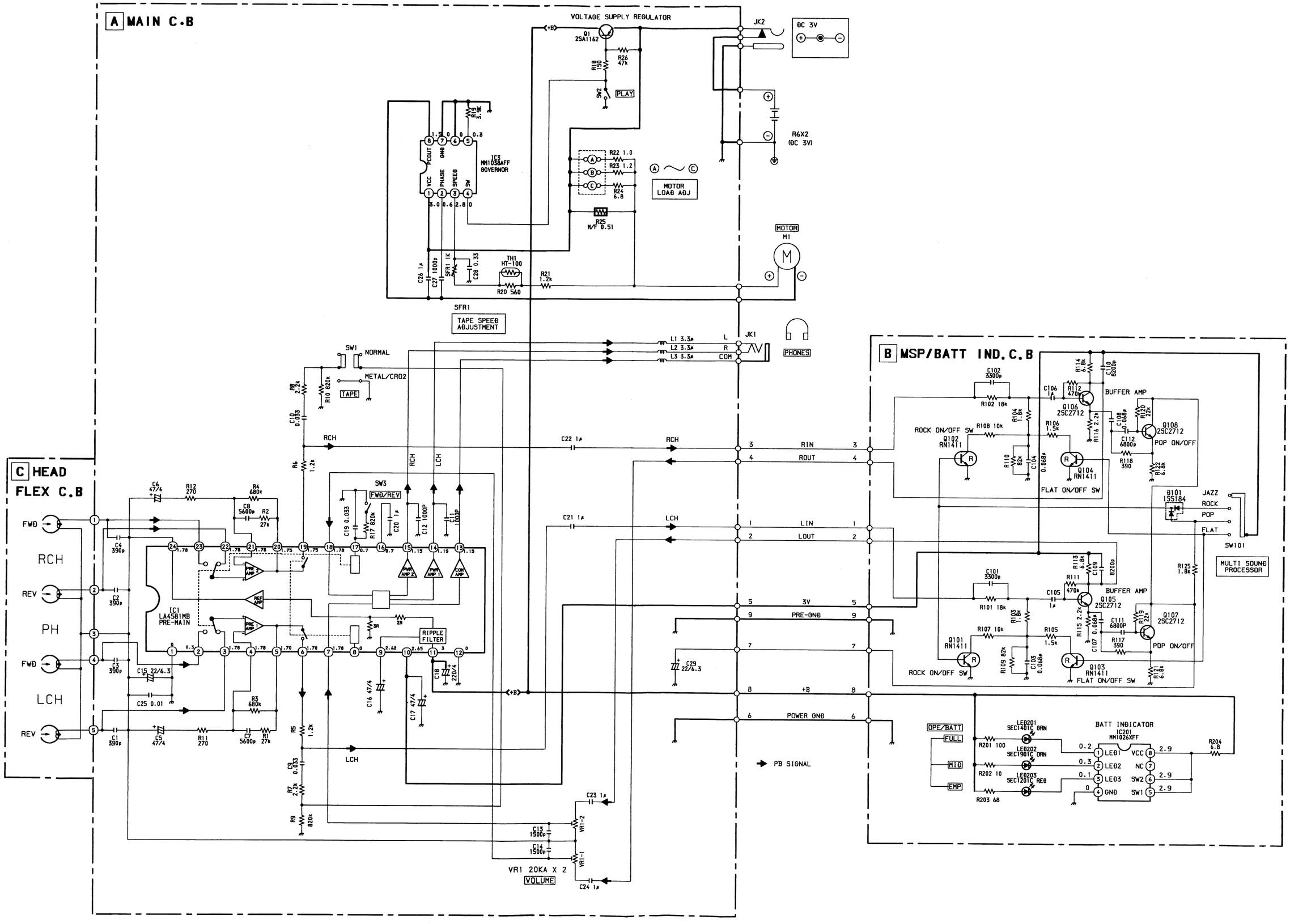
IC3 MM1038AFF



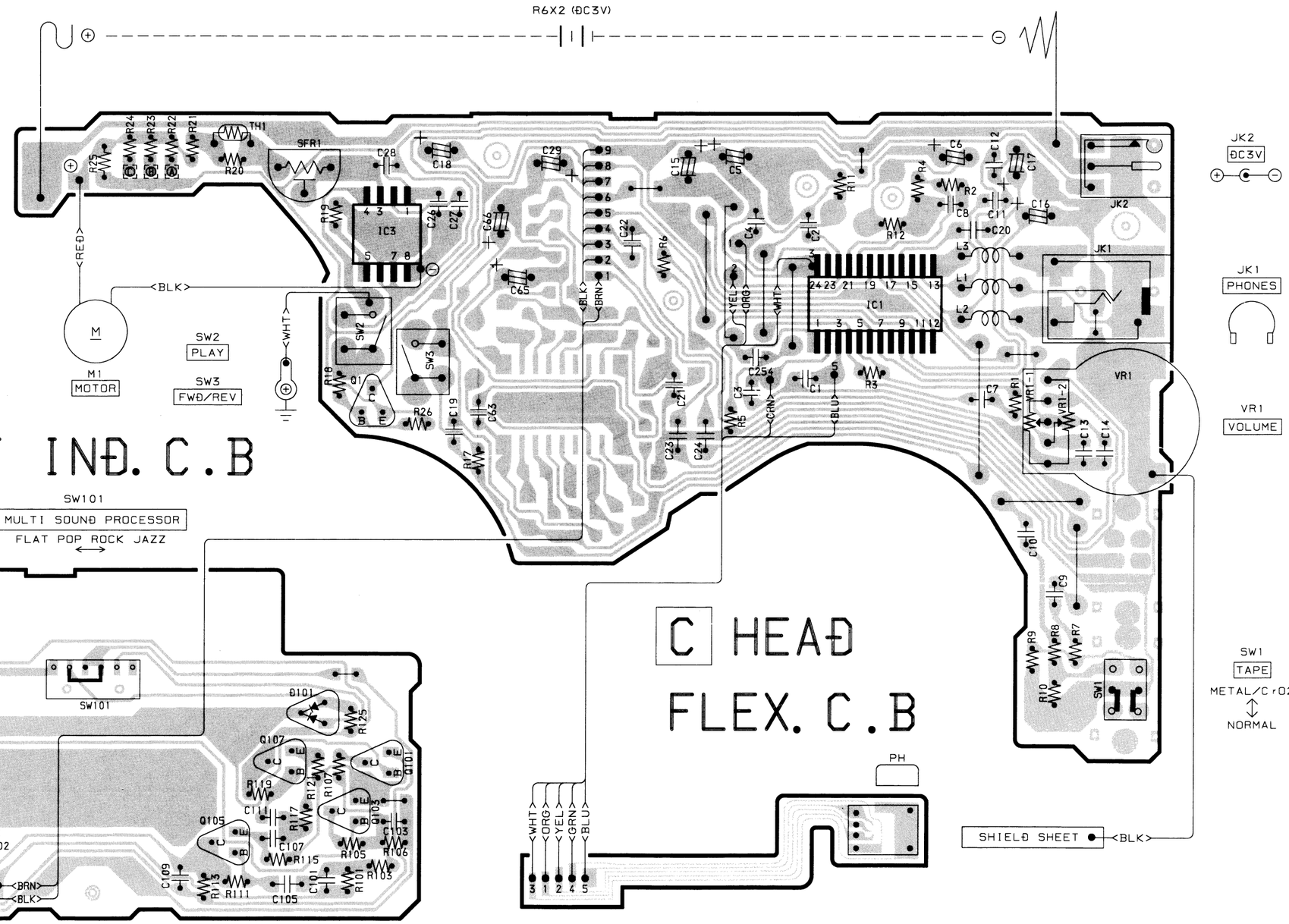
IC201 MM1206XFF



SCHEMATIC DIAGRAM



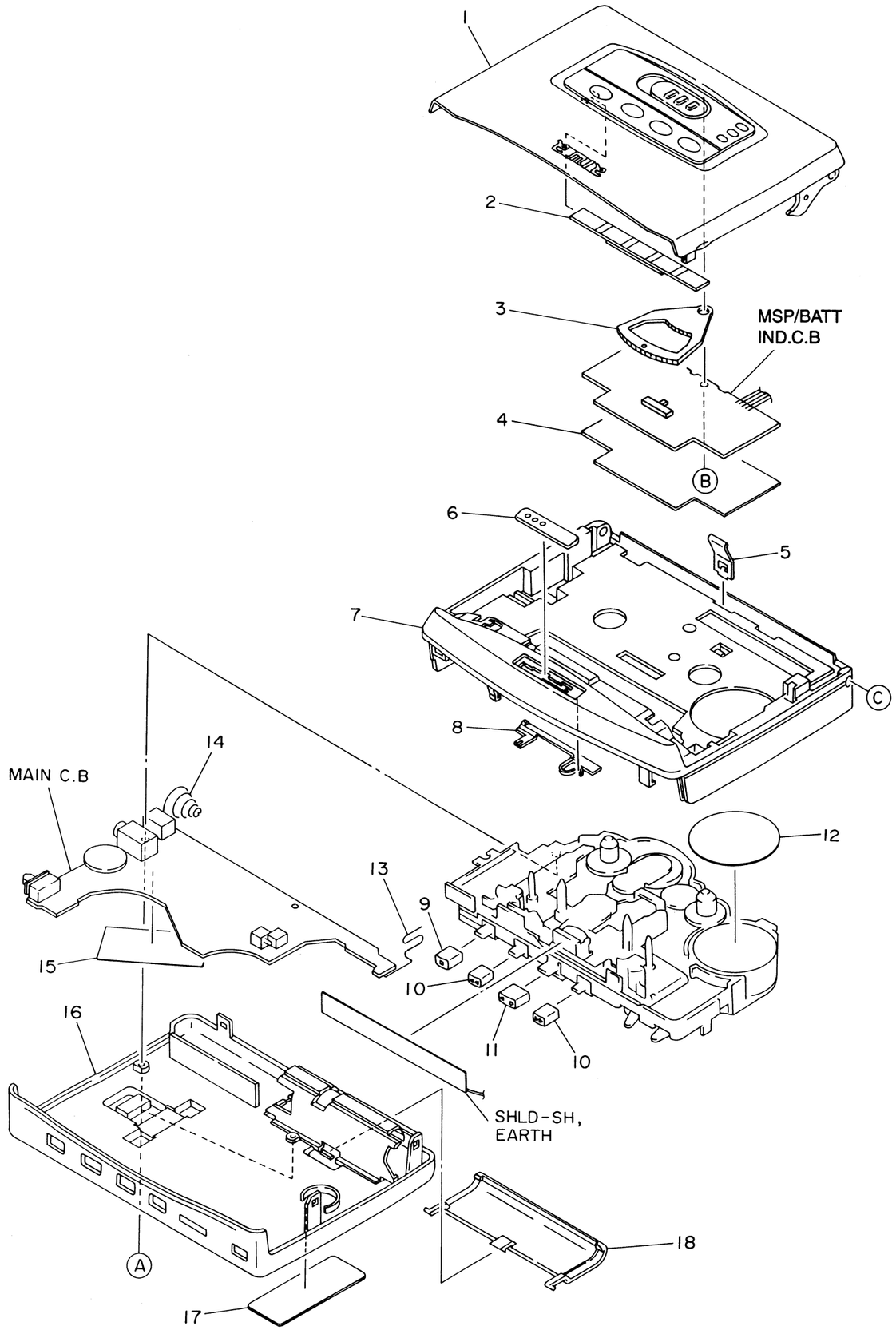
A MAIN C.B



B MSP/BATT IND. C.B

C HEAD FLEX. C.B

MECHANICAL EXPLODED VIEW 1/1

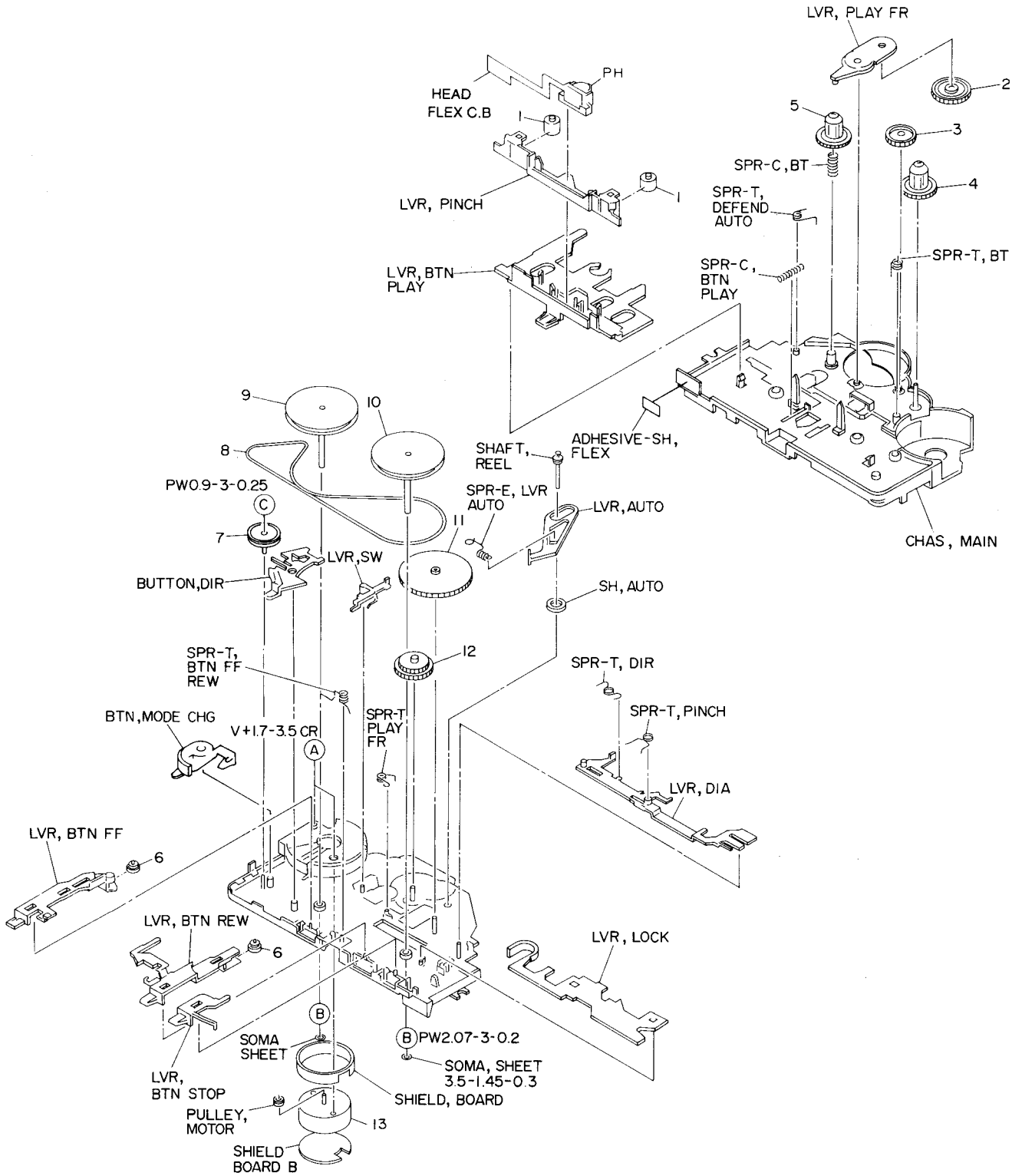


MECHANICAL PARTS LIST 1/1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	09-028-127-010		LID, CASS ASSY [B]
1	09-028-129-010		LID, CASS ASSY [ST]
2	84-HG8-008-019		PLATE,IND
3	84-HG8-203-019		LEVER,IND
4	84-HG8-202-010		COVER PCB
5	81-HK6-205-010		SPR-P,CASS
6	84-HG8-007-019		KNOB, SL LOCK
7	84-HG8-002-019		FRAME,CENTER [B]
7	84-HG8-017-019		FRAME,CENTER [ST]
8	84-HG8-201-019		LEVER, LOCK
9	84-HG8-011-019		BTN, STOP
10	84-HG8-010-019		BTN, FF
11	84-HG8-009-019		BTN, PLAY
12	84-530-023-019		LABEL, MOTOR (BLK)
13	84-HG8-205-019		BAT-CONTACT(+)
14	84-HG8-206-019		BAT-CONTACT(-)
15	84-HG8-220-010		SH, 34-18
16	84-HG8-003-019		CAB,REAR [B]
16	84-HG8-020-019		CAB,REAR [ST]
17	84-HG8-012-019		CAB, SPEC [B,ST]<YK,Y>
17	84-HG8-013-019		LBL, SPEC [B]<YJ1>
18	84-HG8-004-019		LID, BATT [B]
18	84-HG8-019-019		LID,BATT [ST]
A	87-351-531-319		SCEW VT2(1)+1.7-5(B)
B	87-067-732-019		VT (FOR RESIN)1.4-3HL
C	87-067-756-019		SCREW HINGE 1.4-4HL

TAPE MECHANISM EXPLODED VIEW 1/1



TAPE MECHANISM PARTS LIST 1/1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1~13	M8-0ZM-291-010	0ZM-2N	
1	80-ZM2-228-010		PINCH ROLLER ASSY
2	80-ZM2-224-010		GEAR, PLAY FR
3	80-ZM2-225-010		GEAR, MIRROR
4	80-ZM2-222-010		REEL TABLE, F
5	80-ZM2-223-010		REEL TABLE, R
6	80-ZM2-256-110		GEAR, FF REW
7	80-ZM2-231-010		PULLEY, BELT
8	80-ZM2-240-010		BELT, SQ 0.75-244
9	80-ZM2-262-010		FLY-WHL ASSY, FM
10	80-ZM2-216-010		FLY-WHL ASSY, R
11	80-ZM2-227-110		GEAR, AUTO
12	80-ZM2-218-010		GEAR ASSY, SLIP
13	87-045-300-019		MOTOR (BDH3B) (M1)

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, SERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G－　－	
G－　－	
G－　－	

アイワ株式会社
AIWA CO.,LTD.
〒110 東京都台東区池之端1－2－11　☎03 (3827) 3111 (代表)

9301950
Tokyo Japan
Printed in Singapore